

## REMARKS

Entry of the foregoing and reconsideration of the subject application, as amended, pursuant to and consistent with 37 C.F.R. Section 1.112, and in light of the remarks which follow, are respectfully requested.

An one month petition for extension of time is being filed concurrently with this Amendment.

New claim 24 is supported by paragraph [0033].

Claims 1-2, 9, 11-13, 15, 18, and 20-22 have been rejected under 35 U.S.C. Section 102(b) as being purportedly anticipated by Swezey. That rejection is respectfully traversed.

The present invention, as embodied in amended claim 1, concerns a method for reducing pests in soil, said method comprising applying to said soil a pest reducing effective amount of a compound selected from the group consisting of iodoacetic acid, bromoacetic acid, 2-iodoacetamide, 2-bromoacetamide, and mixtures thereof; wherein said applying is pre-bedding, pre-transplant, pre-seed, or pre-plant, and wherein said method fumigates said soil. Claim 10 states that the weeds are selected from the group consisting of *Amaranthus hybridus*, *Echinocloa crus-galli*, *Cyperus rotundus*, and mixtures thereof. Due to the election of species, the compound is bromoacetic acid and the pests are weeds (i.e., *Cyperus rotundus*).

The primary reference Swezey discloses the regulation of the growth of undesired vegetation (e.g., sedge) by contacting the leaf surfaces of plants with monohaloacetic acid (e.g., bromoacetic acid).

The present invention differs from Swezey in that in the present invention the active compound is applied to soil and the applying is pre-bedding, pre-transplant, pre-seed, or pre-plant, and wherein the method fumigates the soil. In Swezey the active compound is applied directly to the leaf surfaces of plants.

The Examiner has alleged the following (page 4, Office Action; emphasis added):

...It is noted that Swezey does not explicitly disclose applying the haloacetic acid compound onto the soil. However, Swezey discloses spraying the haloacetic acid compound dissolved in water...upon the plant surface with uniform dispersion of the chemical over the area under treatment through the use of standard spray equipment (column 1, line 46 through column 2, line 5). Therefore, uniform dispersion of the haloacetic acid over the area under treatment would inherently comprise spraying some the haloacetic acid on the soil with the area under treatment....

However, Swezey is silent regarding the application of the active compound to soil when the applying is pre-bedding, pre-transplant, pre-seed, or pre-plant. In every example of Swezey the compound is applied to leaves of plants in various stages of post-emergent development; there is not a single reference to a soil application pre-bedding, pre-transplant, pre-seed, or pre-plant. Even the Examiner's reference to column 1, line 46 through column 2, line 5 shows that the compound is applied to leaves of plants in various stages of post-emergent development (i.e., not pre-bedding, pre-transplant, pre-seed, or pre-plant). In Swezey if there are no plants then there would be no spraying. There is also not a single mention of activity against seeds, tubers or other propagules in the soil as opposed to above the soil.

The Examiner is also committing two technical errors. (1) The Examiner has provided no basis whatsoever that secondary incidental application of Swezey's spray to soil (after the primary foliar application to plants) would be expected to result in a pest reducing effective amount in the soil; this is especially relevant to claims 13 and 22. (2) In addition, the Examiner has provided no basis whatsoever that the effectiveness of foliar application of active compounds to plants would be expected to also result in effectiveness with soil. Foliar application to plants results in the direct interaction between plants and the active compound. However, the Examiner has not shown that active compounds when applied to soil would retain their activity since the compound could interact with the soil or be fully or partially broken down by microorganisms in the soil. It is well known that foliar active herbicides are not necessarily soil active (<http://www.aces.edu/pubs/docs/A/ANR-0629/>); for example, foliar active herbicides clethodim,

diquat, fluazifop, glufosinate, glyphosate, pelargonic acid and sethoxydim are known to have no soil activity (<http://ag.arizona.edu/urbanipm/weeds/desertweeds.html>). It is also well known that glyphosates (e.g., Roundup™) bind tightly to soil colloids, and this is the reason why they have no soil activity and that even dust can reduce the effectiveness of glyphosates (<http://www.weeds.iastate.edu/mgmt/2006/dust.shtml>).

In view of the above, withdrawal of the rejection of the claims under 35 U.S.C. Section 102(b) is respectfully requested.

Claims 1, 11-12, 15, and 20-22 have been rejected under 35 U.S.C. Section 102(b) as being purportedly anticipated by Fuse et al. (hereinafter Fuse). That rejection is respectfully traversed.

The present invention has been described above.

Fuse discloses that bromoacetic acid is effective against fungi (specifically soft rot fungi or wood destroying fungi) when wood is treated with bromoacetic acid.

The present invention differs from Fuse in that in the present invention the active compound is applied to soil and the applying is pre-bedding, pre-transplant, pre-seed, or pre-plant, and wherein the method fumigates the soil. In contrast, in Fuse bromoacetic acid is applied to wood. Fuse is also silent on application to soil and the effectiveness of bromoacetic acid on soil borne pests.

Withdrawal of the rejection of the claims under 35 U.S.C. Section 102(b) is respectfully requested in view of the above.

Claims 10 and 23 have been rejected under 35 U.S.C. Section 103(a) as purportedly being obvious in view of the combination of Swezey and Watanabe et al. (hereinafter Watanabe). That rejection is respectfully traversed.

The present invention has been described above. Claim 23 states that the weeds are tubers of *Cyperus rotundus*.

The primary reference Swezey has been described above.

The secondary reference Watanabe discloses a synergistic herbicidal composition for combating the undesired vegetation of perennial weeds of Cyperaceae (*Cyperus* spp. (sedges)) and Gramineae. The composition contains as active ingredients at least one of the herbicidal compounds having contact acute phytotoxicity (compound A) **and** at least one of the herbicidal compounds having translocated chronic phytotoxicity (compound B). Compound A is described at column 1, lines 53-66 and includes chlorinated aliphatic acids (e.g., monochloroacetic acid). Compound B is a fluoropropionic acid. The preferred quantity by weight for monochloroacetic acid or its salt or amide is 5 to 10 kg/10a (0.11 to 0.44 lb/a). The quantity by weight for compound B is 0.2 to 1.0 kg/10a.

Watanabe suffers from the same deficiencies as Swezey. Both are concerned with applying the active compound(s) to leaves of plants in various stages of post-emergent development. In the examples of Watanabe the composition was applied to areas where weeds were growing. As noted above, the Examiner has provided no basis whatsoever that secondary incidental application of spray to soil (after the primary foliar application to plants) would be expected to result in a pest reducing effective amount in the soil; this is especially relevant to claims 13 and 22. In addition, the Examiner has provided no basis whatsoever that the effectiveness of foliar application of active compounds to plants would be expected to also result in effectiveness with soil. Foliar application to plants results in the direct interaction between plants and the active compound. However, the Examiner has not shown that active compounds when applied to soil would retain their activity since the compound could interact with the soil or be fully or partially broken down by microorganisms in the soil. It is well known that foliar active herbicides are **not** necessarily soil active (<http://www.aces.edu/pubs/docs/A/ANR-0629/>); for example, foliar active herbicides clethodim, diquat, fluazifop, glufosinate, glyphosate, pelargonic acid and sethoxydim are known to have no soil activity (<http://ag.arizona.edu/urbanipm/weeds/desertweeds.html>). It is also well known that glyphosates (e.g., Roundup™) bind tightly to soil colloids, and this is the reason why they have no soil activity and that even dust can reduce the effectiveness of glyphosates (<http://www.weeds.iastate.edu/mgmt/2006/dust.shtml>).

In view of the above, withdrawal of the rejection of the claims under 35 U.S.C. Section 103(a) is respectfully requested

Claim 19 has been rejected under 35 U.S.C. Section 103(a) as purportedly being obvious in view of the combination of Swezey and Lewis. That rejection is respectfully traversed as it applies to now amended claim 1.

The present invention has been described above.

The primary reference Swezey has been described above.

The secondary reference Lewis discloses the following (column 1, lines 14-31):

...Many of the thousands of organisms that inhabit the soil subsist on living plants. Some injure the roots and other underground parts of the plants and interfere seriously with growth. This problem has been controlled to a certain extent by crop rotation; however, the use of volatile chemicals which function as soil fumigants have become quite common and have been used extensively for the last 30 or more years. Thousands of acres are fumigated annually and the acreage is increasing. Soil fumigation is costly but the increased yield afterwards may have a value very much more than the investment.

Undesirable living things such as bacteria, fungi, nematodes and insects, as well as certain weeds, have been adequately checked by soil fumigation. Of the fumigants in general use, methyl bromide, ethylene dibromide, and 1,2-dibromo- 3-chloro propane have been used extensively....

The Examiner has alleged the following (page 8, Office Action):

...it would have been prima facie obvious for one skilled in the art at the time of the invention to apply bromoacetic acid, as taught by Swezey, to the soil by fumigation in an attempt to control weeds, as reasonably taught by Lewis. One skilled in the art would have been motivated to fumigate soil with the bromoacetic acid composition of Swezey in an attempt to control weeds because Lewis teaches that the value of fumigation is much more than the investment....

The Examiner is misreading Lewis. Lewis does not state that "...the value of fumigation is much more than the investment...." Instead, Lewis states that "...Soil fumigation is costly but the increased yield afterwards may have a value very much more than the investment...." As noted above, the Examiner has provided no basis whatsoever that secondary incidental application of spray to soil (after the primary foliar application to plants) would be expected to result in a pest

reducing effective amount in the soil; this is especially relevant to claims 13 and 22. In addition, the Examiner has provided no basis whatsoever that the effectiveness of foliar application of active compounds to plants would be expected to also result in effectiveness with soil. Foliar application to plants results in the direct interaction between plants and the active compound. However, the Examiner has not shown that active compounds when applied to soil would retain their activity since the compound could interact with the soil or be fully or partially broken down by microorganisms in the soil. It is well known that foliar active herbicides are not necessarily soil active

(<http://www.aces.edu/pubs/docs/A/ANR-0629/>); for example, foliar active herbicides clethodim, diquat, fluazifop, glufosinate, glyphosate, pelargonic acid and sethoxydim are known to have no soil activity (<http://ag.arizona.edu/urbanipm/weeds/desertweeds.html>). It is also well known that glyphosates (e.g., Roundup™) bind tightly to soil colloids, and this is the reason why they have no soil activity and that even dust can reduce the effectiveness of glyphosates (<http://www.weeds.iastate.edu/mgmt/2006/dust.shtml>).

Withdrawal of the rejection of the claims under 35 U.S.C. Section 103(a) is respectfully requested in view of the above.

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

Please charge any required fees pertaining to this Amendment to the Deposit Account of the undersigned, No. 50-2134, and credit any overpayment to said Account.

Respectfully submitted,

By: G. Byron Stover

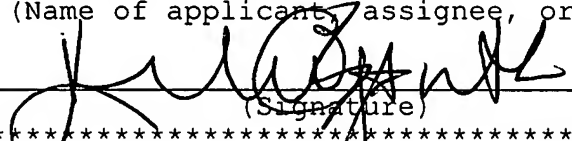
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Response to Non-Final w/ 1mo Ext. of Time

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